

REMARKS

Claims 1-20 and 26 are pending.

Claims 1-20 and 26 stand rejected.

Claims 21-25 remain cancelled.

Claims 1-3, 5, 7-9, and 13 are amended.

Claims 15-20 and 26 are cancelled, herein.

Claims 27-38 are new.

Claim Rejections - 35 USC § 112

Claims 7-14 are rejected under 35 USC 112 as being indefinite.

Claim 7 has been amended to recite “the plurality of original keys” in the final line to resolve the issue of insufficient antecedent basis. Applicant further amends claims 9 and 13 to refer to “the full key” previously recited by claim 7. Applicant believes this clarifies the subject matter being claimed.

Claim Rejections - 35 USC § 102

Claims 7-10 are rejected under 35 USC 102(e) as being anticipated by U.S. Pat. No. 6,493,813 B1 to Brandin et al. (“Brandin”).

Claim 7 has further been amended to recite, in part, an apparatus comprising:

a memory which stores a plurality of partial keys used to determine hashing conflicts, wherein said plurality of partial keys corresponds to a plurality of original keys, and wherein a data sum of said plurality of partial keys requires less memory than a data sum of said plurality of original keys; ... and

a processor that compares one of the plurality of partial keys to the partial key comprising a majority of bits of the full key.

According to the amended claim language of claim 7, a data sum of the plurality of the partial keys requires less memory than a data sum of the plurality of the original keys. As Examiner has noted, Brandin discloses a transform that includes a concatenated extended transform 322 comprised of transforms 314 and 318, where each of the transforms 314 and 318 are half the size of the concatenated extended transform 322. Clearly, then, the data sum of the transforms 314 and 318 would equal the data sum of the extended transform 322, rather than requiring less memory as recited in amended claim 7.

Furthermore, amended claim 7 recites a partial key that comprises a majority of the bits of the full key. On the other hand, either of the transforms 314 or 318 disclosed in Brandin includes half the size of the extended transform 322 and no more. A half size is not a majority. Brandin further discloses reduced transforms at Figure 14, however these also do not comprise a majority of bits of the extended transform 322. Brandin fails to disclose or teach the features recited in amended claim 7, some of which have been discussed herein. For these reasons, claim 7 is believed to be allowable over Brandin as well as the other references cited by the Examiner.

Claims 8-10 as amended, and as depending on claim 7, are also believed to be in a condition for allowance.

Claim Rejections -35 USC § 103

Claims 11-12 are rejected under 35 USC 103(a) as being unpatentable over Brandin as applied to claim 7 above, and further in view of U.S. Pub. No. 2002/0016806 A1 to Rajski ("Rajski").

Claims 1-4 and 15-18 are rejected under 35 USC 103(a) as being unpatentable over Brandin in further view of U.S. Pat. No. 6,345,347 B1 to Biran ("Biran").

Claims 6 and 20 are rejected under 35 USC 103(a) as being unpatentable over the combined teachings of Brandin and Biran as applied to claims 1 and 15 and in further view of U.S. Pub. No. 2005/0086363 A1 to Ji ("Ji").

Claim 13 is rejected under 35 USC 103(a) as being unpatentable over Brandin as applied to claim 7, and in further view of U.S. Pat. No. 6,430,670 to Bryg "Bryg").

Claim 1 has been amended to recite, in part, a method comprising:

- storing a plurality of partial keys corresponding to an equal number of original keys in memory, wherein storage of said plurality of partial keys requires less memory than storage of said equal number of original keys, and wherein said plurality of partial keys are used to determine hashing conflicts;

- applying a hashing function to an original key of said equal number of original keys to generate a hash value; ...

- reading a stored partial key of said plurality of partial keys from the memory that corresponds to said hash value, wherein said hash value is not stored in the memory; and

- executing a conflict check by comparing a partial key derived from an incoming full key with the stored partial key, where the partial key corresponds at most with one of the stored partial keys.

According to the amended claim language of claim 1, a storage of said plurality of partial keys requires less memory than storage of an equal number of original keys. The number of transforms 314 and 318 disclosed in Brandin is equal to twice the number of extended transforms 322. Therefore, an unequal number of transforms correspond to the number of extended transforms according to Brandin. Whereas the further reference Biran directly compares the keys exactly, neither key is a partial key. The partial key as recited by claim 1 is missing from both of these references, therefore, even when combined they fail to teach all the features of claim 1.

Furthermore according to the claim language of claim 1, the hash value is not stored in the memory. Brandin, on the other hand, inputs both of the transforms 314 and 318 into the memory store. Brandin does not identify or disclose a hash value that is not stored in the memory.

In addition, amended claim 1 recites a partial key that corresponds at most with one of the stored partial keys. According to Brandin, an input key 310 corresponds to both transforms 314 and 318. Furthermore, the extended transform 322 is not a partial key. Whereas the further reference Biran directly compares the keys exactly, neither key is a partial key as recited in claim 1.

Neither Brandin nor Biran alone or in combination suggest, teach, or otherwise disclose the novel features recited in claim 1 as amended.

Claims 2, 3 and 5 have also been amended to clarify further novel features. For example, claim 2 has been amended to recited the method of claim 1 wherein

the partial key from the memory corresponding to the hash value includes saved bits comprising a consecutive, sequential string of bits that is a subset of the original key, where the subset includes a majority of bits of the original key.

Neither Brandin, Biran nor any other reference cited by the Examiner suggests, teaches or discloses a subset of the original key as including a majority of bits of the original key. Claims 2-6 are believed to be in a condition for allowance as depending on amended independent claim 1 and for the further novel features recited in the dependent claims.

New claims 27-38 have been added, which include some of the same features herein described as well as other novel features that are recited. For example, claim 27 recites a method comprising:

- generating a partial key and a hash value from an original key, where the partial key includes a consecutive subset of a majority of bits of the original key;
- accessing a memory including multiple partial keys, where the hash value is not stored in the memory;
- selecting a stored partial key from the memory that corresponds with the hash value;
- comparing the partial key with the stored partial key; and
- identifying a hash conflict when the partial key matches the stored partial key.

None of the cited references alone or in combination suggest, teach or disclose a partial key that includes a consecutive subset of a majority of bits of the original key. Furthermore, none of the cited references suggest, teach, or disclose a hash value that is not stored in the memory. Claims 28-38 include different or further novel features as recited therein.

CONCLUSION

For the foregoing reasons, reconsideration and allowance of claims 1-14 and 27-38 of the application as amended is requested. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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A handwritten signature in cursive script, reading "Bryan Kirkpatrick", written over a horizontal line.

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